

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Northeast Regional Office • 205B Lowell Street, Wilmington MA 01887 • 978-694-3200

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APR 20, 2011

CERTIFIED MAIL

Mr. William Thibeault
New Ventures Associates, LLC
85-87 Boston Street
Everett, Massachusetts 02149

Re: NEWBURYPORT – Solid Waste/COR
Crow Lane
Crow Lane Landfill
FMF # 39545
Blasting Protocol – Basin 1
APPROVAL

Dear Mr. Thibeault:

The Massachusetts Department of Environmental Protection, Northeast Regional Office, Bureau of Waste Prevention, Solid Waste Management Section (the "MassDEP") has reviewed the proposed protocol for completing the excavation of storm water basin 1 and related structures at the Crow Lane Landfill located on Crow Lane in Newburyport, Massachusetts. The blasting protocol titled: *"Crow Lane Landfill, Blasting Protocol Requirements to Complete Stormwater Basin 1" (the "Blasting Protocol")* was prepared and submitted to the MassDEP on behalf of New Ventures Associates, LLC ("New Ventures" or "you" or "your") by Steven J. Trettel, P.E.. The Blasting Protocol includes figures titled:

- *"Figure 1 – Approximate Area of High Bedrock to Cut to Subgrade Elevation 43", and*
- *"Figure 2- Anticipated Location and Sequence of Areas to be Blasted and Excavated to Bedrock Subgrade".*

New Ventures submitted the Blasting Protocol to the MassDEP pursuant to paragraphs 11(d)(ii) and 12(d)(ii) of the Settlement Agreement and the Final Judgment, respectively, in *Commonwealth v. New Ventures Associates, LLC*, Suffolk Superior Court C.A. 06-0790 C, as amended by Orders of the court on May 27, 2009, October 7, 2009, and December 2010 (the "Final Judgment"). A copy of the Blasting Protocol, as agreed to on behalf of New Ventures by your attorney Mr. Richard A. Nylen Jr., Esq. and engineer Mr. Steven J. Trettel, P.E. on April 14, 2011 is attached hereto.

The Blasting Protocol specifies the procedures for completing the excavation of stormwater basin 1 and related structures ("Basin 1") and requires, without limitation the following.

1. New Ventures' consultant SITEC ENVIRONMENTAL (SITEC) of Marshfield, Massachusetts shall:
 - a. Provide direct on-site oversight and monitoring of all blasting activities, including drilling of blast holes;
 - b. Confirm the bottom elevation of all drill holes;
 - c. Monitor the ambient air for the presence of Hydrogen Sulfide ("H₂S") using a Jerome Meter (including, but not limited to, monitoring of the liner edges and seams, as well as the landfill perimeter, and the area of Basin 1);
 - d. Respond to all odor complaints received by New Ventures during the drilling and blasting at the landfill;
 - e. Identify the source(s) of any detected odors during the drilling and blasting program;
 - f. Provide New Venture with directions on how to remedy any release of H₂S and odor problems; and
 - g. Maintain records of H₂S concentrations levels (if any) both at the worksite and at adjacent residential areas for all blasting events.
2. New Ventures will in the event of odors immediately cease the blasting (including drilling) and implement corrective actions under the direction of SITEC to remedy the odors at the source at the landfill.
3. In the event SITEC determines that Basin 1 is the source of the odors or H₂S, New Ventures will clear away the blasted rock, and immediately place a layer of low permeable soil over the exposed bedrock sub-grade. New Ventures' will maintain a stockpile of low permeability soil at the site for this purpose.
4. In the event that SITEC or the MassDEP (or MassDEP's representatives, such as Shaw) determine that odors are related to the rock blasting operation, further drilling and blasting will be suspended until SITEC notifies MassDEP that the source of the odors has been remedied and MassDEP approves the resumption of the blasting program in writing, either by email and/or letter.
5. The blasting contractor will conduct seismic monitoring of each blast in accordance with State regulations.
6. Drilling and blasting of the remaining rock above grade in Basin 1 will be accomplished in limited size areas beginning in the southwest corner and proceeding in a northerly direction (see Figures 1 and 2 of the attached Blasting Protocol).
7. Previously blasted and excavated areas on the west side of Basin 1 will be backfilled with a low permeability soil (such as, silt, clay, or till) in layers not exceeding 18" in thickness to the bedrock sub-grade elevation of 43 feet. A final eighteen (18) inch layer of low permeable (10-6cm/sec max) soil will be placed to bring the entire Basin 1 floor to a finish grade of elevation 44.5 feet.

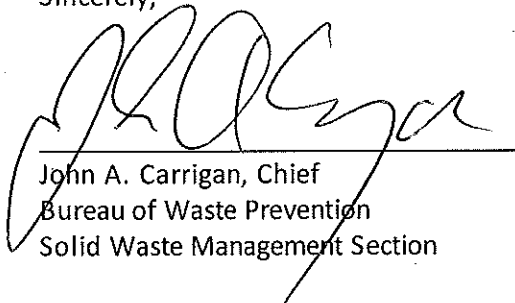
8. New Ventures shall provide the City of Newburyport with a plan and procedures for the notification of City and residents in the area of the landfill. A copy of the plan and procedures as agreed to with the City shall be provided to the MassDEP for placement on the MassDEP's webpage prior to commencement of the drilling and blasting activities at the landfill.

The MassDEP has reviewed the Blasting Protocol and pursuant to paragraphs 11(d)(ii) and 12(d)(ii) of the Settlement Agreement and Final Judgment, respectively, approves the Blasting Protocol subject to the condition, pursuant to 310 CMR 19.043(1), that New Ventures shall within fourteen (14) days of the date of this approval, that is no later than 5 PM on May 4, 2011, submit to the MassDEP for review and approval a Final Corrective Action Design Plan that incorporates the changes described herein to Basin 1 and those required by paragraphs 11(d)(ii) and 12(d)(ii) of the Settlement Agreement and Final Judgment, respectively including, but not limited to all necessary revisions to the Corrective Action Design plans, specifications, and Quality Assurance and Quality Control Plan.

This approval does not limit New Ventures obligation to comply with all other applicable state, federal, and local laws and regulation. Nor does this decision limit the MassDEP's authorities to take all actions necessary to assure compliance by New Ventures with all applicable laws and regulations implemented by the MassDEP including but not limited to 310 CMR 19.00, 310 CMR 7.00, and 310 CMR 40.00.

Should you have any questions regarding this approval I may be contacted by telephone at (978) 694-3299 or by email at John.Carrigan@state.ma.us.

Sincerely,



John A. Carrigan, Chief
Bureau of Waste Prevention
Solid Waste Management Section

JAC/jac

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Stormwater Basin 1

Final Blasting Protocol

April 20, 2011

ATTACHMENT 1
CROW LANE LANDFILL
BLASTING PROTOCOL REQUIREMENTS TO COMPLETE STORMWATER BASIN 1
TO BE ATTACHED TO
APPENDIX F: INTERIM STORMWATER PLAN
APRIL 13, 2011

1. Blasting and excavation of bedrock shall be limited to the remaining area of the basin above final rock sub-grade of Elevation 43 feet. (see Figure 1 attached)
2. New Ventures' consultant SITEC ENVIRONMENTAL (SITEC) shall provide oversight and monitoring of all blasting events to confirm that drill holes are to elevation 41 feet, breakage is adequate, and seismic monitoring results are within State regulatory limits.
3. SITEC shall provide ambient air monitoring for the presence of H₂S using a Jerome Meter and shall maintain records of H₂S concentrations levels (if any) both at the worksite and at adjacent residential areas for all blasting events. Such monitoring shall include, but not be limited to, monitoring the liner edges and seams, as well as the general perimeter of the landfill.
4. SITEC personnel shall respond to all odor complaints received by New Ventures during the drilling and blasting activities at the landfill including but not limited conducting monitoring for H₂S with a Jerome Meter at the location of the complaint and landfill.
5. SITEC personnel shall identify the source of any detected odors during the drilling and blasting program and shall provide New Venture with directions on how to remedy the situation. Wherein the source of the odor is the blasting area, New Ventures' initial response shall be to cease the blasting, clear away the blasted rock, and immediately place a layer of low permeable soil over the exposed bedrock sub-grade. Wherein the source is elsewhere on the site, New Ventures shall immediately initiate actions as necessary to remedy the odor, including, but not limited to, per paragraph 7, below.

6. New Ventures shall maintain a stockpile of low permeability soil at the site in close proximity to Basin 1 during the blasting and excavation of rock. In the event odors occur due to the rock excavation work, the blasted rock shall be cleared from the rock sub-grade immediately and a minimum of 12" of low permeability soil placed and compacted immediately following broken rock removal to contain the odor.
7. In the event that SITEC or the MassDEP (or MassDEP's representatives, such as Shaw) determine that odors are related to the rock blasting operation, further drilling and blasting shall be suspended until SITEC notifies MassDEP that the source of the odors has been remedied and MassDEP approves the resumption of the blasting program in writing, either by email and/or letter.
8. Seismic monitoring of each blast shall be conducted and recorded by the blasting contractor in accordance with State regulations which require monitoring by a seismograph at the nearest habitable structure not owned by New Ventures. The structure selected is the neighboring Contractor's building adjacent to Basin 1 on the north side of Crow Lane. State regulations require acceleration measured by the instrument to be less than 2 inches per second.
9. Drilling and blasting of the remaining portions of Basin 1 (see Figure 1) shall be in accordance with the attached Table 1 which indicates the hole pattern, depth and charge for the initial test blasts. The blasting contractor's subsequent plans must be approved by SITEC, and submitted to MassDEP, before implementation. It is anticipated that adjustments in the plan will be made by the contractor as recommended by SITEC based on the results of the seismic monitoring and rock breakage during the initial two blasting events.
10. Drilling and blasting of the remaining rock above grade in Basin 1 (See Figure 1) will be accomplished in limited size areas beginning in the southwest corner and proceeding in a northerly direction. Initial two test blast areas will be limited to 1,500sf. Subsequent areas may be increased based on test blast results, with a maximum upper limit of 2500sf. A preliminary sketch showing the blasting area sequencing is attached as Figure 2.

11. Previously blasted and excavated areas on the west side of Basin 1 will be backfilled with a low permeability soil (such as, silt, clay, or till) in layers not exceeding 18" in thickness to the bedrock sub-grade elevation of 43 feet. Each layer will be compacted by tracking with heavy equipment or vibratory drum compactor.
12. A final eighteen (18) inch layer of low permeable (10-6cm/sec max) soil will be placed to bring the entire Basin 1 floor to a finish grade of elevation 44.5 feet. The final layer to be placed in two nine inch lifts and compacted to a minimum of 95% maximum density.
13. The compliance of materials with the permeability standards of 10-6 cm/sec shall be based on no single (individual) sample exceeding the standard and shall not be based on the averaging of samples.
14. A 6" layer of stone, produced from the screening of loam at the site shall be placed over the 18" low permeability soil for protection.
15. The thickness of the 18 inch thick 10-6 cm/sec and 6 inch crush stone layers shall be documented by the collection and recording of the actual as placed thickness of the layer in the field and shall be based on no individual measurement being less than the required 18 inches. Measurements shall not be averaged for purposes of determining compliance with the specified thickness of 18 inches.
16. New Ventures shall provide the City of Newburyport with a plan and procedures for the notification of City and residents in the area of the landfill. A copy of the plan and procedures as agreed to with the City shall be provided to the MassDEP for placement on the MassDEP's webpage prior to commencement of the drilling and blasting activities at the landfill.
17. New Ventures shall within fourteen (14) days of the date of MassDEP's approval of this blasting protocol submit to the MassDEP for review and

approval a Final Corrective Action Design Plan that incorporates the changes described herein to Storm Water Basin 1 and those required by paragraphs 11(d)(ii) and 12(d)(ii) of the Settlement Agreement and Final Judgment respectively as amended by agreement of the parties and filed with the Court (Luariat, P.) on December 21, 2010. This shall include, but is not limited to all necessary revisions to the Corrective Action Design plans, specifications, and Quality Assurance and Quality Control Plan.

TABLE 1
DRILLING/BLASTING PLAN (INITIAL TRIAL)

Depth of Rock Cut	Drill Hole Depth	Hole Pattern (3"hole)	Charge Ammonium Nitrate
5'	7'	4'X4'	5
10'	12'	5'X5'	10
15	17"	6'X6'	15

*Note: Ammonium Nitrate (round pellet form) used in dry hole. If wet hole, use packaged material emulsion.

EXISTING GRADES
REPRESENT COND
PRE-CONTOURING
GEOMEMBRANE C/
EXISTING GEOMEM
TO BE DISTURBED

EXISTING LANDFILL GAS
MANAGEMENT AREA

PRIMARY BASIN 1 OUTLI
STRUCTURE TO CULVER
4'-HIGH RIP RAP BAFFLE
(SEE DETAIL DWG. 7)

SECONDARY BASIN 1 OI
STRUCTURE TO VERNAL
52' OF 6" HDPE DISCH
S=0.025 FT./FT.

VERNAL POOL DISCH
SHUT-OFF VALVE
(SEE DETAIL DWG. 7)

CDS STORMWATER DIS-
TREATMENT UNIT (SEE
6" INV. (IN)=44.65
6" INV. (OUT)=44.65

75' OF 6" HDPE DISCH
S=0.025 FT./FT.

BASIN
EXCAVATE TO EL. 51.0

4'-HIGH
RIP RAP
BAFFLE

PIPES
INV.=51.0

TOP OF BERM=51.0

FIGURE 1

APPROXIMATE AREA
OF HIGH BEDROCK
TO BE CUT TO SUBGRADE
ELEVATION 43

PLANTED 'END 16"
LEVEL SPREADER
TREES TO MAINT

PROPOSED
EROSION CONT
(SEE DETAIL 10

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